

# Work Order ID 37687-1

October 7, 2009 11:04:47 AM



Page 1

Item ID: D3391-015  
Revision ID: H  
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 10/07/09 Start Qty: 1.00  
Required Date: 10/30/09 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan:   
QC:

Date:  
Date:

Tooling:  
SPC (Y/N):

Date:  
Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3391

Rev H

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599 Rev: \_\_\_\_ & Dwg D3391 Rev: \_\_\_\_

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

120

HAAS CNC VERTICAL MACHINING #1

0.00



HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA599 Rev: \_\_\_\_ & Dwg D3391 Rev: \_\_\_\_  
2-Deburr

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Setup Start  
Stop



Start Date: 10/07/09 Start Qty: 1.00  
Required Date: 10/30/09 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan:  
QC:

Date:  
Date:

Tooling:  
SPC (Y/N):

Date:  
Date:

Run Start  
Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130



QC

Quality Control

✓ QC2- Inspect parts off machine FAI/FAIB

0.00

Memo

0.00

140



QC

Quality Control

✓ QC8- Inspect parts - second check

0.00

Memo

0.00

150



Skidtubes

Skidtubes

✓ Skidtubes

0.00

Memo

0.00

I-Drill ( PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

# Work Order ID 37687-1

October 7, 2009 11:04:54 AM



Item ID: D3391-015  
Revision ID: H  
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 10/07/09 Start Qty: 1.00

Required Date: 10/30/09 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160



CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

Form as per Dwg D3391

0.00

0.00

170



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

# Work Order ID 37687-1

October 7, 2009 11:04:54 AM



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Item ID: D3391-015  
Revision ID: H  
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 10/07/09 Start Qty: 1.00

Required Date: 10/30/09 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill Tube as per D3391 using DT8808 (ALL HOLES)

3-Drill and c'bore wearshoe holes as per Dwg \*\*\*\*\*ensure wall thickness after c'bore is no less than 0.051\*\*\*\*\*

4-C'sink holes for float bag (4 holes per side) as per Dwg D3391  
Deburr

5- Tranfer holes from D3391-013 for electric step in tube

190

0.00



QC

QC5- Inspect part completeness to step on W/O

Memo

0.00

Quality Control

# Work Order ID 37687-1

October 7, 2009 11:05:00 AM



Item ID: D3391-015  
Revision ID: H  
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 10/07/09 Start Qty: 1.00

Required Date: 10/30/09 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

200

Chemical Conversion Coat per QS1005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

210

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Install crossbolt spacers per dwg D3391  
A/R Magnabond 6398 batch: \_\_\_\_\_

2- Grind flush

220

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

# Work Order ID 37687-1

October 7, 2009 11:05:00 AM



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Item ID: D3391-015  
Revision ID: H  
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 10/07/09 Start Qty: 1.00



Required Date: 10/30/09 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

230



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

START TIME: \_\_\_\_\_

OVEN TEMPERATURE: \_\_\_\_\_

FINISH TIME: \_\_\_\_\_

240



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

250



HandFinish

Hand Finishing

HandFinishing

0.00

Memo

0.00

1-Install inserts per dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 \_\_\_\_\_

Sikaflex expiry date: \_\_\_\_\_

# Work Order ID 37687-1

October 7, 2009 11:05:06 AM



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Item ID: D3391-015  
Revision ID: H  
Item Name: Aft Tube Assembly

Accept



Setup Start



Stop



Start Date: 10/07/09 Start Qty: 1.00  
Required Date: 10/30/09 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

260

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Siola 11/7

(+)

270

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

37506A

W

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/17  
ME 10-2-17

# Picklist Print

October 7, 2009 11:04:43 AM

Page 1

Work Order ID: 37687-1

Parent Item: D3391-015RevH

Parent Item Name: Aft Tube Assembly



Comments:

Start Date: 10/07/09

Required Date: 10/30/09

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ ALS4-1032-130		Purchased	No			250	Each	5,401.000	14.0000			
												
Insert												



Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse  
ST

5401

110511

5401

✓ ALS4-1032-225	Purchased	No	250	Each	8,159.000	12.0000
						
Insert						

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse  
ST



8159

107441

16

110768

8143

✓	ALS4-428-165	Purchased	No	250	Each	42.0000	4.0000
							
Inserts							

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse  
FP

42

6989

42



# Picklist Print

October 7, 2009 11:04:43 AM

Page 2

Work Order ID: 37687-1

Parent Item: D3391-015RevH

Parent Item Name: Aft Tube Assembly


Comments:

Start Date: 10/07/09

Required Date: 10/30/09

Start Qty: 1.00

Required Qty: 1.00


Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ AN3C4A  BOLT		Purchased	No			250	Each	2,316.000	6.0000			

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	2316	
112082	14	
112314	40	
112720	262	
112724	500	
112794	1000	
112829	500	

✓ AN3C5A  Bolt		Purchased	No			250	Each	922.0000	4.0000			
---	--	-----------	----	--	--	-----	------	----------	--------	--	--	--

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST	922	
111424	8	
111707	69	
112314	45	
112489	100	
112641	500	
112720	200	

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Shop Packet Print

Page 2

# Picklist Print

October 7, 2009 11:04:44 AM

Page 3

Work Order ID: 37687-1

Parent Item: D3391-015RevH

Parent Item Name: Aft Tube Assembly



Comments:

Start Date: 10/07/09

Required Date: 10/30/09

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ AN960C10L  washer		Purchased	No			100	Each	5,172.000	10.0000			

Warehouse Loc Qty Loc Code

Location

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

5072

112116

1081

112612

3991

✓ D2646RevC



Aft Cap

Manufactured

No

250

Each

55.0000

1.0000



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

55

20208

0

43801

1

46327

6

48109

48

October 7, 2009 11:04:44 AM

Shop Packet Print

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# Picklist Print

October 7, 2009 11:04:44 AM

Work Order ID: 37687-1

Parent Item: D3391-015RevH

Parent Item Name: Aft Tube Assembly

Comments:

Start Date: 10/07/09

Required Date: 10/30/09

Start Qty: 1.00

Required Qty: 1.00



Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3537-1RevC		Manufactured	No			250	Each	217.0000	1.0000			
Wearpad												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 5

48288 2

50321 3

Main Warehouse

FP17 162

51678 162

Main Warehouse

ST 50

51918 50

✓ D3537-7RevC		Manufactured	No			250	Each	23.0000	1.0000			
Wearpad												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST 23

45408 9

46346 14

# Picklist Print

October 7, 2009 11:04:45 AM

Work Order ID: 37687-1

Parent Item: D3391-015RevH

Parent Item Name: Aft Tube Assembly

Comments:

Start Date: 10/07/09

Required Date: 10/30/09

Start Qty: 1.00

Required Qty: 1.00



Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3553-1RevA		Manufactured	No			250	Each	18.0000	1.0000			
Gasket												

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse  
ST

18

33868

18

✓ D3553-3RevA		Manufactured	No			250	Each	7.0000	1.0000			
Gasket												

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse  
ST

7

47206

7

✓ D3670-4-200RevA		Manufactured	No			250	Each	163.0000	14.0000			
SPACER												

Warehouse                      Loc Qty                      Loc Code  
Location

Main Warehouse  
ST

163

46106

4

47122

32

48198

42

48269

85

# Picklist Print

October 7, 2009 11:04:45 AM

Work Order ID: 37687-1

Parent Item: D3391-015RevH

Parent Item Name: Aft Tube Assembly



Comments:

Start Date: 10/07/09

Required Date: 10/30/09

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3672-1RevB		Manufactured	No			250	Each	2,060.000	2.0000			
												
Phenolic Washer												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

ST 1560

39275 19

42329 19



47628 522

52505 1000

Main Warehouse

ST117 500

51674 500

✓	D6014-090RevA	Manufactured	No	51674	210	500	Each	21.0000	1.0000
									
									
ALUMINUM EXTRUSION									

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		

Main Warehouse

LG 21

42768 21

# Work Order Summary

October 7, 2009 11:01:36 AM

Page 1 of 1

Criteria : Work Order ID: 37687 Item ID: D2856-400RevA Product Family PURCHASED ITEMS  
 Work Order Start Dates 7/15/09 to 7/15/09 11:59:59 PM Work Order Required Dates 8/03/09 to 8/03/09  
 11:59:59 PM

All References  
 Work Order Status Released

Work Order ID 37687 Required Qty 216.0000 Status Code Released  
 Item ID D2856-400RevA Accepted Qty 0.0000 Scrap Qty 0.0000  
 Item Name Abraison Strip  
 Current Acct Value \$4.217 Sales Order ID

Start Date 7/15/09 Required Date 8/03/09 Completed Date  
 Standard \*\* Actual \*\* \*\* Acct. Value \*\* \*\* Variance \*\* \*\* Variance % \*\*

Direct Costs	Total	Each	Each	Each	Each
Material	\$402.000	\$0.000	\$4.233	\$4.233	100.00%
Labor	\$574.350	\$0.000	\$0.000	\$0.000	0.00%
Outplant	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
Variable Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
Fixed Burden	\$1,104.980	\$0.000	\$0.000	\$0.000	0.00%
Material Burden	\$0.000	\$0.000	\$0.000	\$0.000	0.00%
<b>** Total **</b>	<b>\$2,081.330</b>	<b>\$0.000</b>	<b>\$4.233</b>	<b>\$4.233</b>	

Item ID/ Item Name	Required Qty	Issue Code	Issue Date	Issued Qty	Cost Amount
ZWIP	0.0000				
Opening WIP BALANCE MATERIAL COST			6/25/09	402.0000	\$402.000
				<b>Total Matl Amts:</b>	<b>\$402.000</b>

## Work Center

Employee ID	Rout Seq ID	Labor Date	Setup Hours	Actual Setup Hours	Labor Hours	Actual Labor Hours	Nbr of WOs	Setup Amount	Labor Amount	Fix Burd Amount	Var Burd Amount	Total Amounts
ZWIP		6/25/09										
N/A			0.00	0.00	21.86	21.86	1.00	\$0.000	\$21.860	\$0.000	\$0.000	\$21.86
N/A			0.00	0.00	552.49	552.49	1.00	\$0.000	\$552.490	\$1,104.980	\$0.000	\$1,657.47
<b>Total:</b>			0.00	0.00	574.35	574.35	2.00	\$0.000	\$574.350	\$1,104.980	\$0.000	\$1,679.33

October 7, 2009 11:01:37 AM

Work Order Summary

Page 1 of 1

Date: Wednesday, 10/07/09 11:01:29 AM

User: Linda Lacelle

**JOB HISTORY : DETAIL**

<b>Job Number</b>	: 37687	<b>Customer</b>	: Dart Helicopters Services
<b>Estimate Number</b>	: 11437	<b>DWG Name</b>	: 412 FLOAT SKIDTUBE
<b>Purchase Order #</b>	:	<b>Part Number</b>	: D3391015
<b>Complete Date</b>	: / / : : AM	<b>DWG Number</b>	: D3391 REV G
<b>Rev.</b>	: G		

<b>DUE DATE</b>	<b>ORDERED</b>	<b>DELIVERED</b>
3/14/08	1	0

<b>1.0 D6014090-ALUMINUM EXTRUSION</b>	<b>INVENTORY ITEM</b>
--	-----------------------

DATE	EMPLOYEE	TYPE	Qty		COST	
3/09/08	SAUV01: Sauve, Jean-Francois	D6014090	1.000		\$340.90	Lot # 32309 Qty. 1
<b>Subtotal:</b>	QTD:	0 CTD:	1		\$340.90	

<b>2.0 MORI SEIKI</b>	<b>Internal Operation</b>
-----------------------	---------------------------

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
3/08/08	SAUV01: Sauve, Jean-Francois	Run	0.000	5.52	\$100.08	5.52	158.13
3/09/08	SAUV01: Sauve, Jean-Francois	Run	0.000	1.90	\$34.45	1.90	54.43
<b>Subtotal:</b>	QTD:	0 CTD:	0	7.42	\$347.09		

<b>4.0 HAAS1</b>	<b>Internal Operation</b>
------------------	---------------------------

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
9/02/08	FOUR01: Fournier, Sebastien	Run	0.000	0.74	\$13.06	1.55	67.58
9/03/08	FOUR01: Fournier, Sebastien	Run	2.000	0.00	\$0.00	0.00	0.00
<b>Subtotal:</b>	QTD:	2 CTD:	0	0.74	\$80.64		

<b>7.0 SKIDTUBES 1</b>	<b>Internal Operation</b>
------------------------	---------------------------

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
9/04/08	TITL01: Titley, Ian	Run	1.000	0.58	\$9.37	0.58	20.99
<b>Subtotal:</b>	QTD:	1 CTD:	0	0.58	\$30.36		

<b>10.0 SKIDTUBES 1</b>	<b>Internal Operation</b>
-------------------------	---------------------------

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
9/08/08	RAIN01: Rainey, Jamie	Run	1.000	0.61	\$11.58	0.61	25.94
9/09/08	RAIN01: Rainey, Jamie	Run	1.000	0.37	\$7.03	0.37	15.75
12/15/08	LEVI01: Levis, Sylvain	Setup	0.000	0.58	\$11.01	0.58	24.66
12/16/08	PAQU03: Paquette, Dan	Run	0.000	2.92	\$55.45	2.92	124.21
1/22/09	PAQU03: Paquette, Dan	Run	1.000	4.61	\$87.54	4.61	196.09
<b>Subtotal:</b>	QTD:	3 CTD:	0	9.09	\$559.26		

<b>12.0 HAND FINISHING1</b>	<b>Internal Operation</b>
-----------------------------	---------------------------

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
1/23/09	LEVI01: Levis, Sylvain	Run	1.000	0.76	\$14.43	0.76	35.06
<b>Subtotal:</b>	QTD:	1 CTD:	0	0.76	\$49.49		

<b>14.0 SKIDTUBES 1</b>	<b>Internal Operation</b>
-------------------------	---------------------------

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach. Cost
9/03/08	FOUR01: Fournier, Sebastien	Run	0.000	2.35	\$41.48	2.35	92.91
1/23/09	LEVI01: Levis, Sylvain	Run	1.000	2.29	\$43.49	2.29	97.42
1/26/09	RAIN01: Rainey, Jamie	Run	1.000	0.44	\$8.36	0.44	18.73
1/26/09	RAIN01: Rainey, Jamie	Run	1.000	1.11	\$21.08	1.11	47.22
<b>Subtotal:</b>	QTD:	3 CTD:	0	6.19	\$370.69		

Date: Wednesday, 10/07/09 11:01:29 AM

User: Linda Lacelle

**JOB HISTORY : DETAIL**

<b>Job Number</b>	: 37687	<b>Customer</b>	: Dart Helicopters Services
<b>Estimate Number</b>	: 11437	<b>DWG Name</b>	: 412 FLOAT SKIDTUBE
<b>Purchase Order #</b>	:	<b>Part Number</b>	: D3391015
<b>Complete Date</b>	: / / : : AM	<b>DWG Number</b>	: D3391 REV G
<b>Rev. : G</b>			

<b>16.0 POWDER COATING Internal Operation</b>							
DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach.Cost
5/27/09	ROQU01: Roquebrune, Benoit	Run	0.000	0.18	\$2.80	0.18	4.40
5/27/09	LAUG01: Laughren, Gary	Run	1.000	0.40	\$6.22	0.40	9.77
<b>Subtotal:</b> QTD: 1 CTD: 0 0.58 \$23.19							

<b>18.0 D2646-Aft Cap INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	D2646	1.000		\$14.98		Lot # 46327 Qty. 1
<b>Subtotal:</b> QTD: 0 CTD: 1 \$14.98							

<b>20.0 D35377-Wearpad INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	D35377	1.000		\$31.60		Lot # 45408 Qty. 1
<b>Subtotal:</b> QTD: 0 CTD: 1 \$31.60							

<b>21.0 D35531-Gasket INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	D35531	1.000		\$1.19		Lot # 33868 Qty. 1
<b>Subtotal:</b> QTD: 0 CTD: 1 \$1.19							

<b>22.0 D35533-Gasket INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	D35533	1.000		\$2.56		Lot # 33870 Qty. 1
<b>Subtotal:</b> QTD: 0 CTD: 1 \$2.56							

<b>23.0 D36721-Phenolic Washer INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	D36721	2.000		\$0.64		Lot # 42329 Qty. 2
<b>Subtotal:</b> QTD: 0 CTD: 2 \$0.64							

<b>24.0 ALS41032130-Insert INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	ALS41032130	14.000		\$1.74		Lot # 110511 Qty. 14
<b>Subtotal:</b> QTD: 0 CTD: 14 \$1.74							

<b>25.0 ALS41032225-Insert INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	ALS41032225	12.000		\$2.84		Lot # 110768 Qty. 12
<b>Subtotal:</b> QTD: 0 CTD: 12 \$2.84							

<b>26.0 ALS4428165-Inserts INVENTORY ITEM</b>							
DATE	EMPLOYEE	TYPE	Qty		COST		
5/28/09	ROQU01: Roquebrune, Benoit	ALS4428165	4.000		\$1.32		Lot # 6989 Qty. 4
<b>Subtotal:</b> QTD: 0 CTD: 4 \$1.32							



Date: Wednesday, 10/07/09 11:01:30 AM  
User: Linda Lacelle

# JOB HISTORY : DETAIL

<b>Job Number</b>	: 37687	<b>Customer</b>	: Dart Helicopters Services
<b>Estimate Number</b>	: 11437	<b>DWG Name</b>	: 412 FLOAT SKIDTUBE
<b>Purchase Order #</b>	:	<b>Part Number</b>	: D3391015
<b>Complete Date</b>	: / / : : AM	<b>DWG Number</b>	: D3391 REV G
		<b>Rev.</b>	: G

## 27.0 AN3C4A-BOLT INVENTORY ITEM

DATE	EMPLOYEE	TYPE	Qty		COST	
5/28/09	ROQU01: Roquebrune, Benoit	AN3C4A	6.000		\$2.16	Lot # 111668 Qty. 6
<b>Subtotal:</b>			QTD: 0 CTD: 6		\$2.16	

## 28.0 AN3C5A-Bolt INVENTORY ITEM

DATE	EMPLOYEE	TYPE	Qty		COST	
5/28/09	ROQU01: Roquebrune, Benoit	AN3C5A	4.000		\$1.68	Lot # 111707 Qty. 4
<b>Subtotal:</b>			QTD: 0 CTD: 4		\$1.68	

## 29.0 AN960C10L-washer INVENTORY ITEM

DATE	EMPLOYEE	TYPE	Qty		COST	
5/28/09	ROQU01: Roquebrune, Benoit	AN960C10L	10.000		\$0.39	Lot # 111668 Qty. 10
<b>Subtotal:</b>			QTD: 0 CTD: 10		\$0.39	

## 30.0 HAND FINISHING1 Internal Operation

DATE	EMPLOYEE	TYPE	Qty	Time(hrs)	COST	MTime(hrs)	Mach.Cost	
5/28/09	ROQU01: Roquebrune, Benoit	Run	0.000	2.93	\$45.56	2.93	71.53	
5/28/09	ROQU01: Roquebrune, Benoit	Run	0.000	2.54	\$39.50	2.54	62.02	
<b>Subtotal:</b>			QTD: 0 CTD: 0	5.47	\$218.61			

		TIME	COST	
	Machine Time:	31.64	\$1126.84	
	Labor:	30.83	\$552.49	
	Sub-contract (external Op.):		\$0.00	
	INVENTORY ITEM:		\$402.00	
	SUB-COMPONENT (SUB-JOB):		\$0.00	
<b>Total:</b>			\$2081.33	

COST PER UNIT: \$2081.33

D'3391-015

## Work Order ID 37687

June 26, 2009 10:29:04 AM



Page 1

Item ID: D2856-400

Accept



Setup Start



Revision ID: A

Stop



Item Name: Abrasion Strip

Start Date: 15/07/2009 Start Qty: 216.00

Required Date: 03/08/2009 Req'd Qty: 216.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run HoursDraw  
NumberDraw  
Rev.Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D2856

Rev A

100

0.00



Purchasing

PURCHASING

Memo

0.00

Purchasing

Issue P/O: \_\_\_\_\_ Material: Outdoor grade polyurethane protective  
clear tape 3M P/N 8681 (or 8681HS) - 108 foot roll Specify for Clear Tape

110

0.00



Packaging

Receive &amp; Inspect for Damage &amp; Mat'l Certs

Memo

0.00

Packaging

Ensure material certification is attached

120

0.00



QC

QC6- Inspect dimensions to drawing

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D

# Work Order ID 37687

June 26, 2009 10:29:04 AM



Page 2

Item ID: D2856-400

Accept



Setup Start



Revision ID: A

Stop



Item Name: Abraison Strip

Start Date: 15/07/2009 Start Qty: 216.00

Required Date: 03/08/2009 Req'd Qty: 216.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

# Picklist Print

June 26, 2009 10:29:03 AM

Page 1

Work Order ID: 37687

Parent Item: D2856-400RevA

Parent Item Name: Abraison Strip

Comments:





Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 216.00

Required Qty: 216.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
3M8681-4  Abrasion Strip 4"		Purchased	No			110	f	0.0000	216.0000 			

Date  
Job

07:35:55 AM

## Process Sheet

Customer : CU-DAR001 Dart Helicopt Services  
 Job Number : 37687  
 Estimate Number : 11437  
 P.O. Number :  
 This Issue : 07/03/2008 S.O. No. :  
 Prsht Rev. : NC  
 First Issue :  
 Previous Run : 37545  
 Written By : J. F. 08/03/09  
 Checked & Approved By :  
 Comment :  
 : est rev A 05.12.13 New issue EC  
 : est rev B 06.02.09 Dwg @ revD EC  
 : est rev C 07.03.13 dwg @ revF ec  
 : est rev D 07.10.31 ecn 1053P EC  
 Est Rev:E ECN 1056 07-11-13 DD verified by: EC

Drawing Name : 412 FLOAT SKIDTUBE  
 Part Number : D3391015  
 Drawing Number : D3391 REV H  
 Project Number : N/A  
 Drawing Revision : G  
 Material :  
 Due Date : 14/03/2008 Qty: 1 Um: Each

Type : LANDING GEAR

## Additional Product

Job Number:



Seq. # Machine Or Operation: Description :

1.0 ✓ D6014090 ALUMINUM EXTRUSION



Comment: Qty.: 1.0000 f(s)/Unit Total: 1.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty Part Number Description Batch

1 D6014-090 Extrusion R 32309

Identify as D3391-3

J.F. 08/03/09 (1)

2.0 ✓ MORI SEIKI MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599 Rev. A4 & Dwg D3391 Rev: G

J.F. 08/03/09 (1)

3.0 ✓ QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.F. 08/03/09 (1)

4.0 ✓ HAAS1 HAAS CNC VERTICAL MACHINING #1



Comment: HAAS

1-Machine as per Folio FA 599 Rev: A1 & Dwg D3391 Rev: G

2-Deburr

J.F. 08/03/09 (2)

Date:  
User:

Friday 07/03/2008 10:35:55 AM  
Jean-Luc Menard

# Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 37687

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

✓ QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

35 08/09/03

6.0

✓ QC8

SECOND CHECK



Comment: SECOND CHECK

26 08/09/02

7.0

✓ LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

25 08-09-04

8.0

✓ BENDING

BENDING MACHINE



Comment: NC Bender

Form as per Dwg D3391

25 08-09-04

9.0

✓ QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

20 08/09/04 (H)

10.0

✓ LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill Tube as per D3391 using DT8808 (ALL HOLES)

3-Drill and c' sink wearshoe holes as per Dwg D3391

4-C'sink holes for float bag (4 holes per side) as per Dwg D3391  
Deburr

5- Transfer holes from D3391-013 for electric step in tube

Handwritten notes and signatures: 2-9-8, 9-1-22, and a large signature.

11.0

✓ QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

20 09/01/23 (H)

Date: Friday, 07/03/2008 10:35:56 AM  
User: Jean-Luc Menard

# Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 37687

Part Number: D3391015

Job Number:



Seq. #: Machine Or Operation:

Description:

12.0 ✓ HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

SL 9-1-23

13.0 ✓ D36704200

SPACER



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

SPACER

Batch: 41863

SL 9-1-25

14.0 ✓ LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install crossbolt spacers per dwg D3391

A/R Magnabond 6398 batch: 109900

SL 9-1-25

2- Grind flush

15.0 ✓ QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

16.0 ✓ POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref. 4.3.5.1) as per QSI 005 4.3

PR-SS WASH BR 09-05-27  
M111472

17.0 ✓ QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

18.0 ✓ D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Aft Cap

Batch: B46327

BR 09-05-28

BR 09-05-28

D3391015  
1337687

27/05/2009

S.052 14.35

#1 323.8 F

#2 - - F

#3 30mm F

#4 30 F

Date: Friday, 07/03/2008 10:35:56 AM  
User: Jean-Luc Menard

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 37687

Part Number: D3391015

Job Number:



Seq. #: Machine Or Operation: Description :

19.0

✓ D35371

WEARPAD



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARPAD

Batch: B47715

BR

20.0

✓ D35377

Wearpad



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearpad

Batch: B45108

BR

21.0

✓ D35531

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

Batch: B32868

BR

22.0

✓ D35533

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

Batch: B33870

BR

23.0

✓ D36721

PHENOLIC WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

PHENOLIC WASHER

Batch: B42329

BR

24.0

✓ ALS41032130

Insert



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

INSERT

Batch: M110511

or equivalent per

QSI 017

BR

25.0

✓ ALS41032225

Insert



Comment: Qty.: 12.0000 Each(s)/Unit Total : 12.0000 Each(s)

INSERT

Batch: M110768

BR



Date: Friday, 07/03/2008 10:35:56 AM  
User: Jean-Luc Menard

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 37687

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

or equivalent

per QSI 017

26.0



ALS4428165

Inserts



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Inserts

Batch: *M6989*

*BR*

27.0



AN3C4A

BOLT



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Bolt

Batch: *M11668*

*BR*

28.0



AN3C5A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: *M117707*

*BR*

29.0



AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

WASHER

Batch: *M11668*

*BR*

30.0



HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Install inserts per dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-2411-291 *M117345*

Sikaflex expiry date: *10/08*

*ell*

*10/02/12*

*(X)*

31.0



QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Sikaflex*

*(10)*

Date: Friday, 07/03/2008 10:35:56 AM  
User: Jean-Luc Menard

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 412 FLOAT SKIDTUBE

Job Number: 37687

Part Number: D3391015

Job Number:



Seq. #:

Machine Or Operation:

Description :

32.0



PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

33.0



QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



DART AEROSPACE LTD		Work Order: 57657
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: G	Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

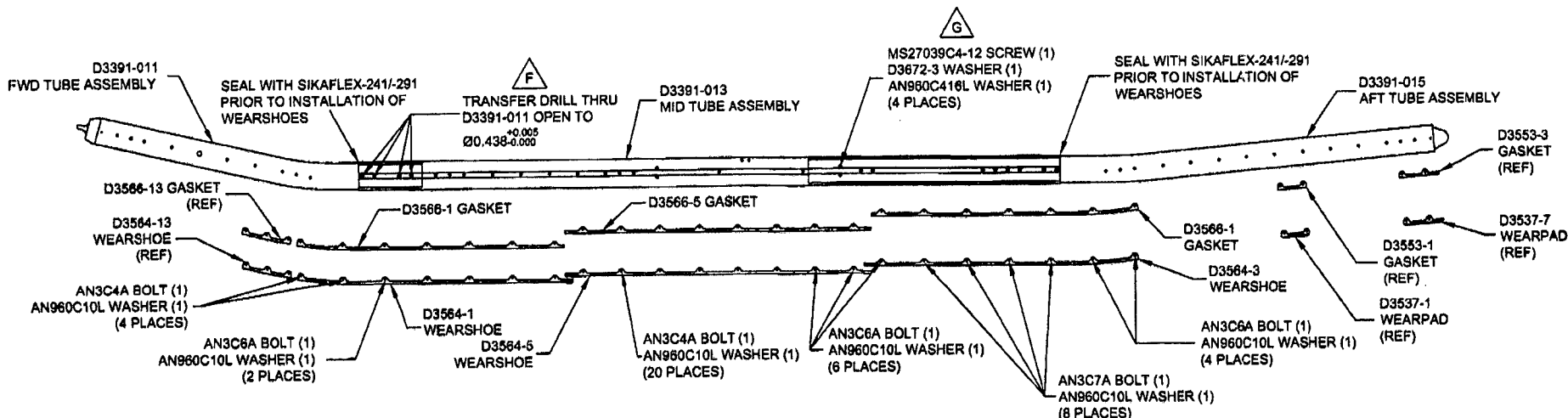
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.000	+/-0.010	14.002	✓			
3.500	+/-0.010	3.504	✓			
88.93	+/-0.030	88.930	✓			
44.995	+/-0.030					
3.200	+/-0.010	3.200	✓			
1.526	+0.000/-0.030	1.518	✓			
0.200	+/-0.010	.203	✓			
7.500	+/-0.010	7.497	✓			
27.750	+/-0.010	27.750	✓			
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.303	✓			
<del>0.200</del>	<del>+/-0.010</del>					
3.520	+/-0.010	3.517	✓			
0.687	+0.010/-0.000	.687	✓			
R0.062	+/-0.010	.062	✓			
Ø0.484	+0.005/-0.001	.484	✓			

2/1  
Final  
08-09-02

Measured by: TF	Audited by: 24	Prototype Approval:	N/A
Date: 08/03/04	Date: 05/09/02	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	12

w/o 37687.



D3391-041 ASSEMBLY

RELEASED  
07.11.06

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

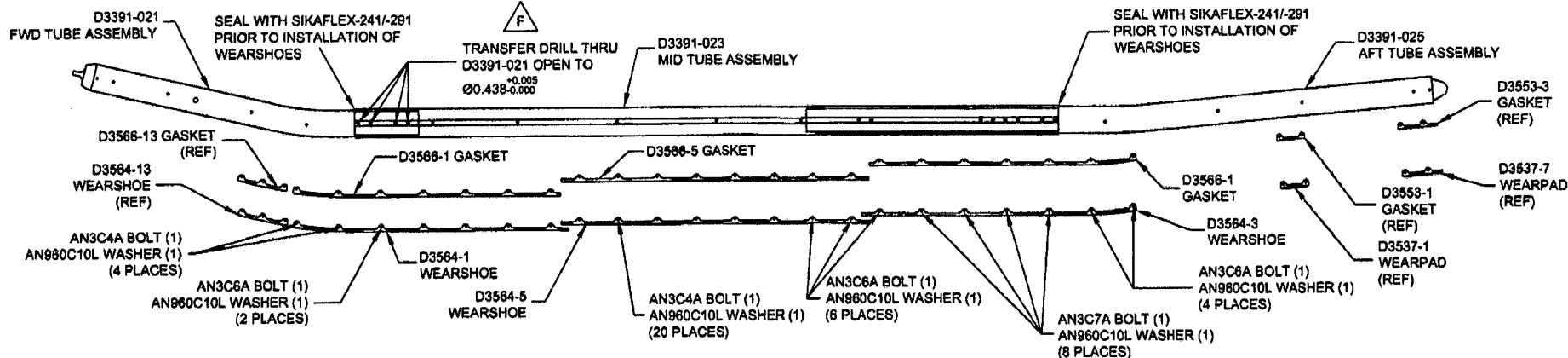
QTY	PART NUMBER	DESCRIPTION
1	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH  
AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH  
LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS  
OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES  
FOR WEARSHOE INSERTS. C-BORE AS NOTED AND INSTALL INSERTS EXCEPT  
WHERE INDICATED.

G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS. DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH		
DRAWN	PH		
CHECKED	PH		
MFG. APPR.	PH		
APPROVED	PH		
DE APPR.	PH		
DATE	07.07.31		

**DART AEROSPACE USA, INC**  
PORT HADLOCK, WA  
DRAWING NO. D3391  
TITLE 412 FLOAT SKIDTUBE  
REV. G  
SHEET 1 OF 8  
SCALE  
NTS  
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**D3391-043 ASSEMBLY**

**RELEASED**  
07.11.94

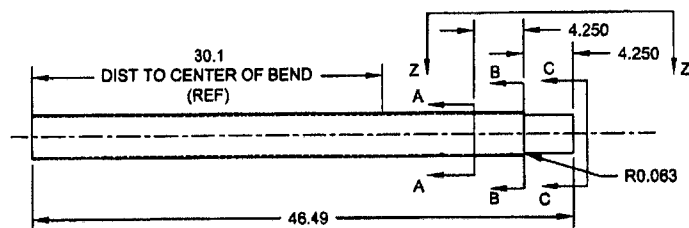
**D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

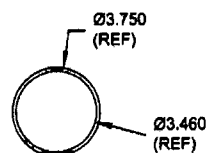
**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

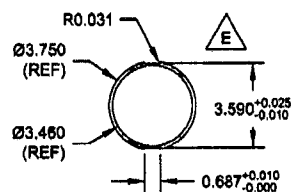
DESIGN	<i>AN</i>	<b>DART AEROSPACE USA, INC</b>
DRAWN	<i>JC</i>	PORT HADLOCK, WA
CHECKED	<i>h</i>	DRAWING NO. REV. G
MFG. APPR.	<i>h</i>	D3391 SHEET 2 OF 8
APPROVED	<i>h</i>	TITLE SCALE
DE APPR.	<i>h</i>	412 FLOAT SKIDTUBE NTS
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.



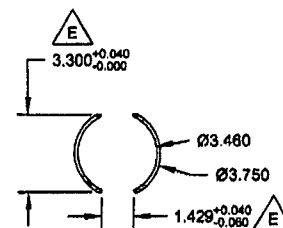
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D8013-047 SKIDTUBE MATERIAL)



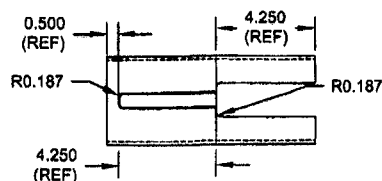
**SECTION A-A**  
(SCALE 1:5)



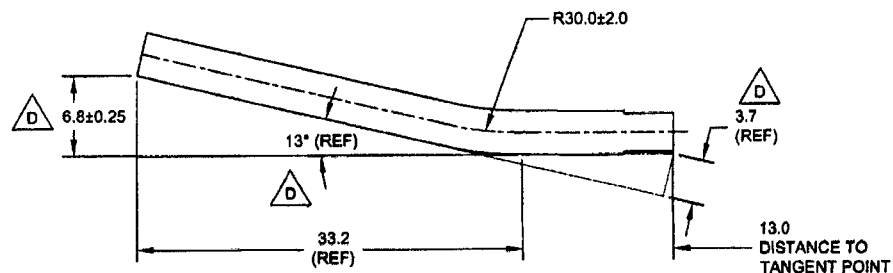
**SECTION B-B**  
(SCALE 1:5)



**SECTION C-C**  
(SCALE 1:5)



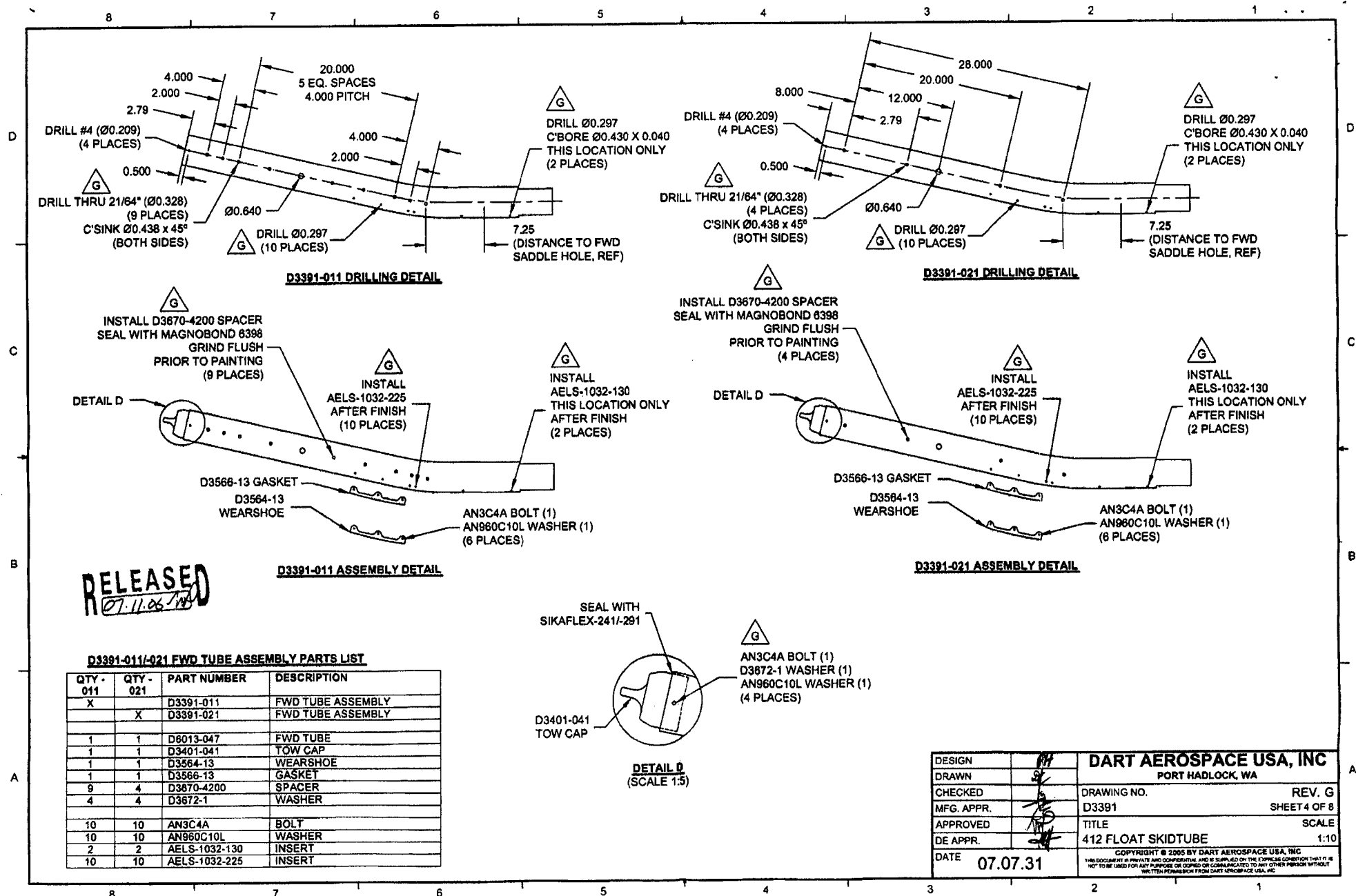
**VIEW Z-Z**  
(SCALE 1:5)

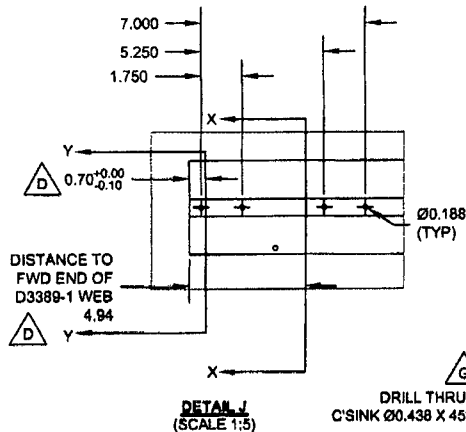


**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)

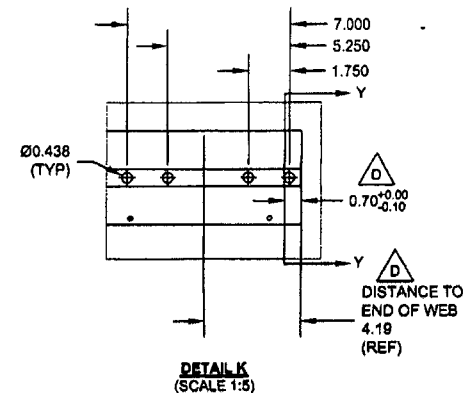
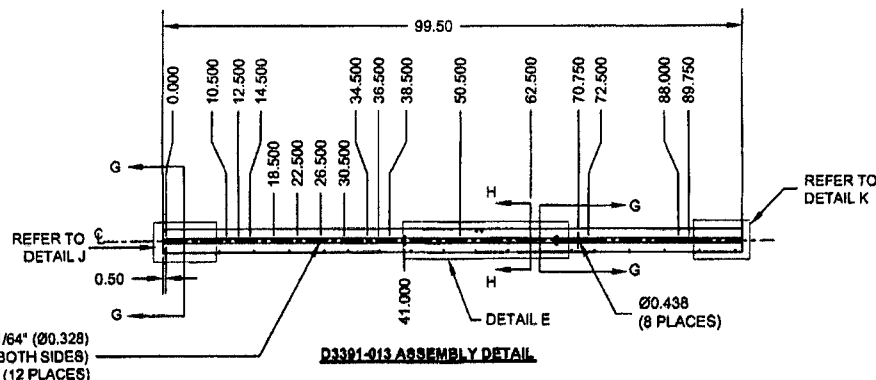
RELEASED  
07-11-2017

DESIGN	44	<b>DART AEROSPACE USA, INC</b>	
DRAWN	SC	PORT HADLOCK, WA	
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MFG. APPR.	SC	D3391	SHEET 3 OF 8
APPROVED	SC	TITLE	SCALE
DE APPR.	SC	412 FLOAT SKIDTUBE	1:10
DATE	07.07.31	<small>COPYRIGHT © 2006 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

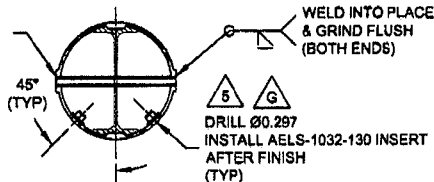




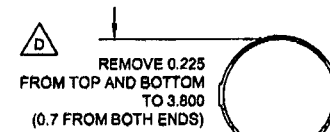
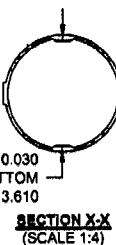
DRILL THRU 21/64" (Ø0.328)  
C'SINK Ø0.438 X 45° (BOTH SIDES)  
(12 PLACES)



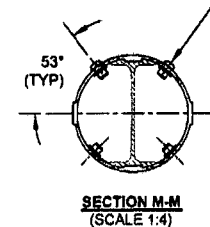
INSTALL  
D3681-1 SPACER



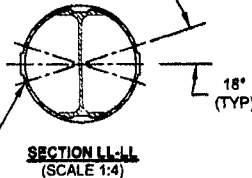
REMOVE 0.030  
FROM TOP AND BOTTOM  
TO 3.610



DRILL Ø0.297  
INSTALL AELS-1032-130 INSERT  
MS27039C1-09 SCREW  
D3672-1 WASHER  
AN960C10L WASHER  
AFTER FINISH  
(TYP 4 PLACES)

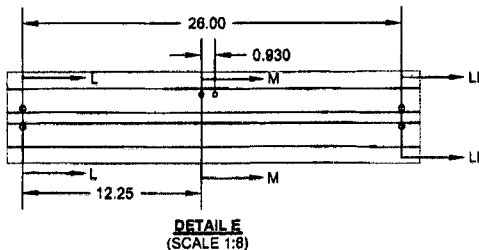


DRILL Ø0.250  
(TYP 4 PLACES)

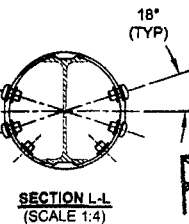


# **D3391-013 MID TUBE ASSEMBLY PARTS LIST**

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
12	D3681-1	SPACER
4	D3672-1	WASHER
4	D3672-3	WASHER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



DRILL Ø0.391  
INSTALL ALS4-428-165 INSERT  
MS27039C4-08 SCREW  
D3672-3 WASHER  
AN960C416L WASHER  
AFTER FINISH  
(TYP 4 PLACES)

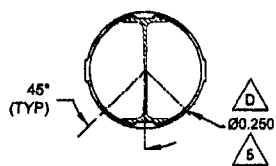
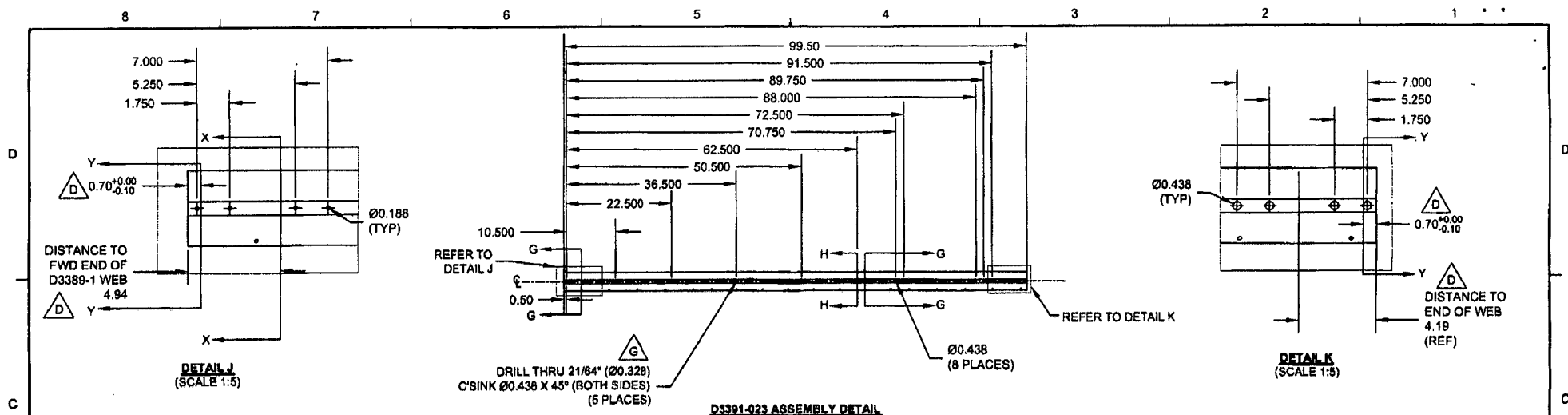


**RELEASED**  
27.11.06

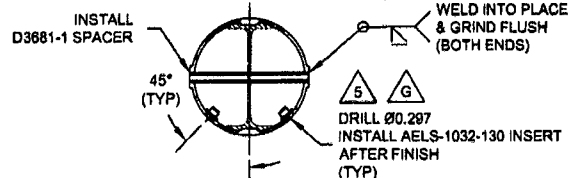
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>
DRAWN	JP	PORT HADLOCK, WA
CHECKED	JP	DRAWING NO. D3391
MFG. APPR.	JP	REV. G
APPROVED	JP	SHEET 5 OF 8
DE APPR.	JP	TITLE 412 FLOAT SKIDTUBE
DATE	07.07.31	SCALE 1:20

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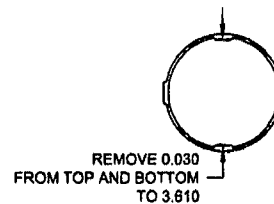




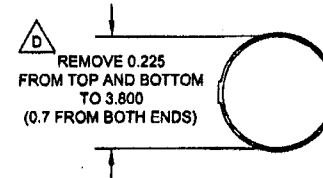
SECTION G-G  
(SCALE 1:4)



SECTION H-H  
(SCALE 1:4)



SECTION X-X  
(SCALE 1:4)



SECTION Y-Y  
(SCALE 1:4)

**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

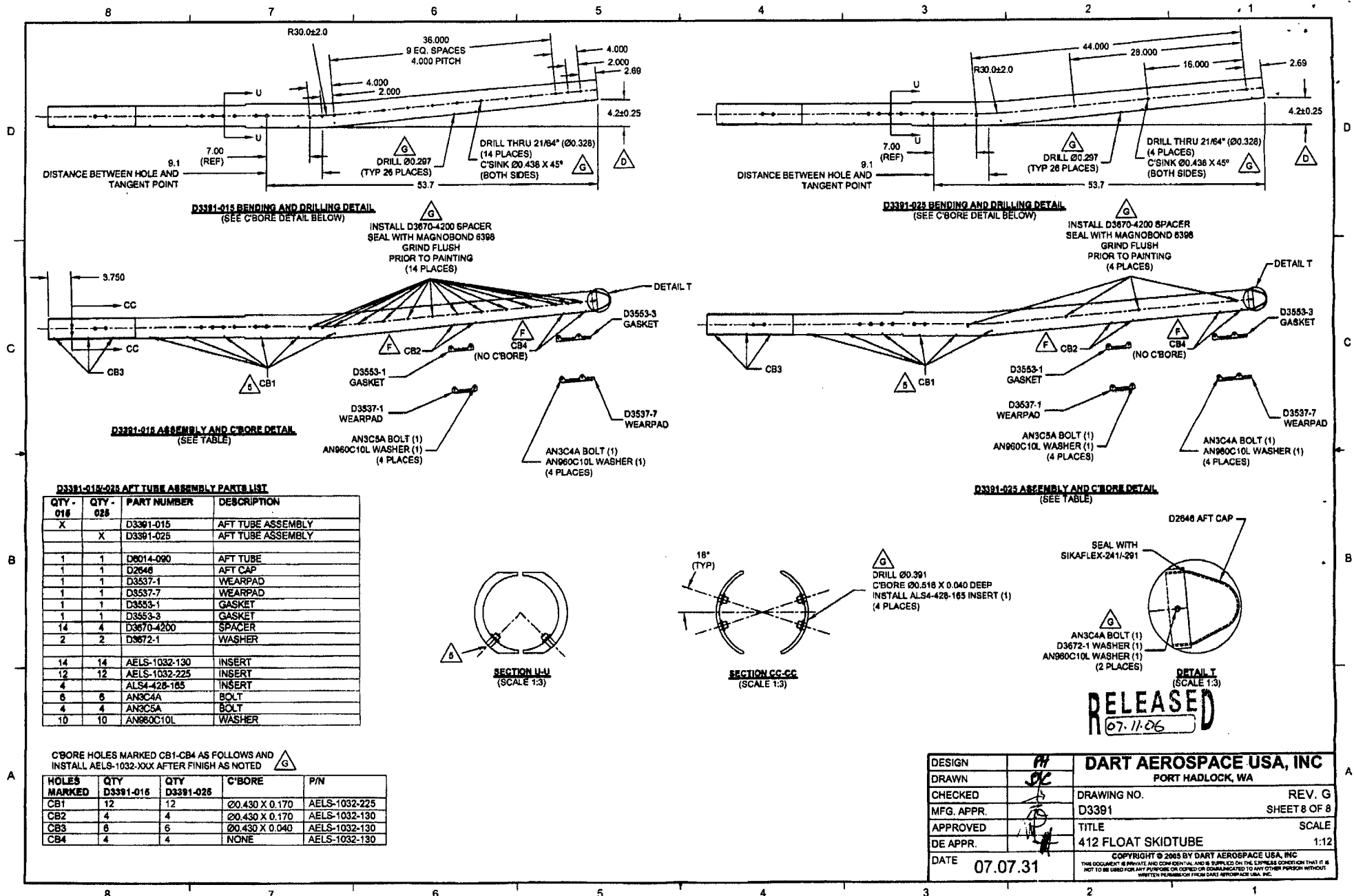
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

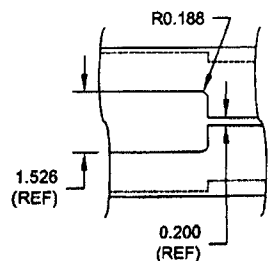
**D3391-023 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

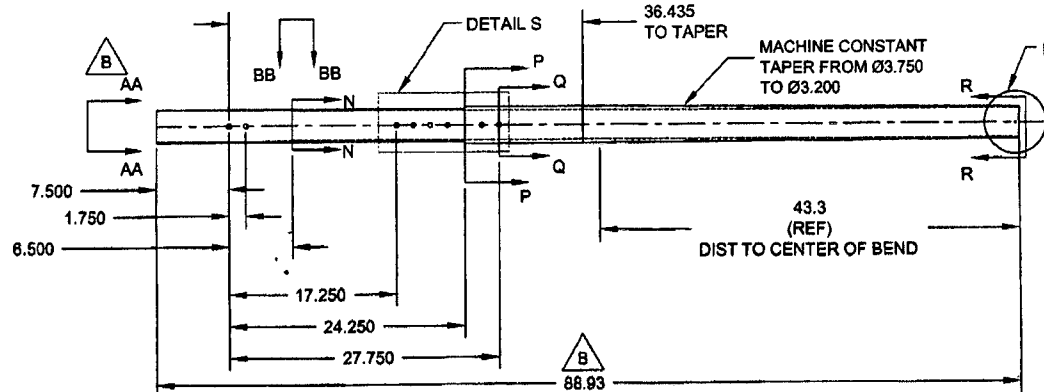
RELEASED  
07.11.06/11

DESIGN	AW	DART AEROSPACE USA, INC	
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CHECKED	DE	DRAWING NO.	REV. G
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APPROVED	DE	TITLE	SCALE
DE APPR.	DE	412 FLOAT SKIDTUBE	1:20
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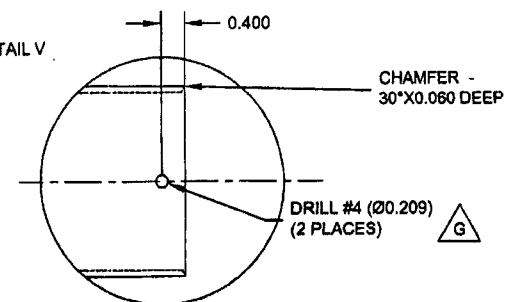




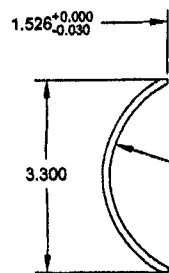
**VIEW BB-BB**  
(SCALE 1:3)



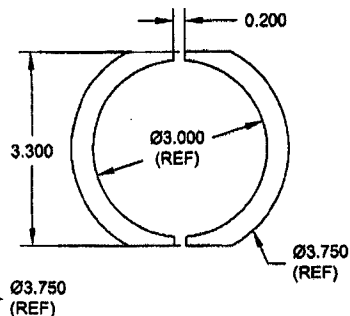
**D3391-3 AFT DRILLING AND CUTTING DETAIL**  
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



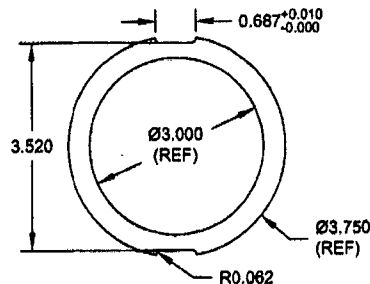
**DETAIL V**  
(SCALE 1:2)



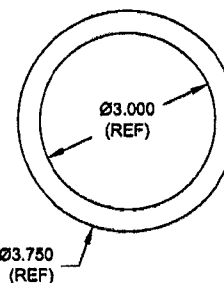
**SECTION AA-AA**  
(SCALE 1:2)



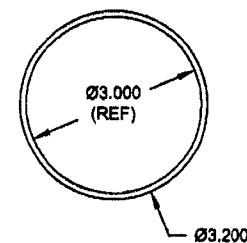
**SECTION N-N**  
(SCALE 1:2)



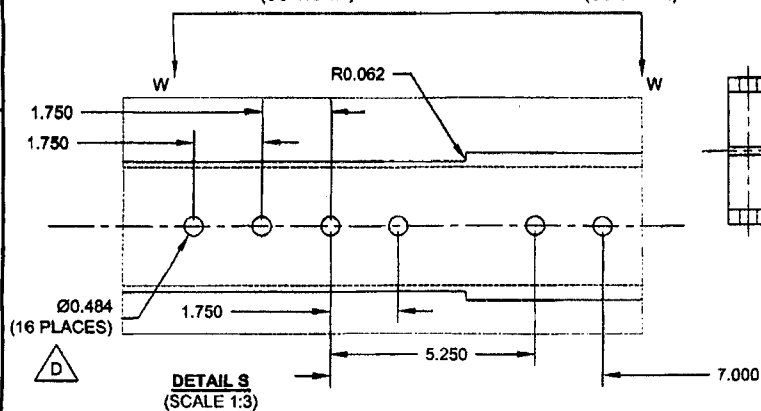
**SECTION P-P**  
(SCALE 1:2)



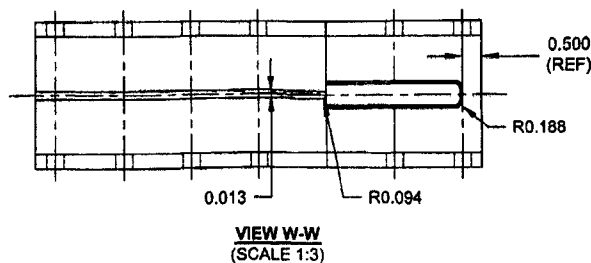
**SECTION Q-Q**  
(SCALE 1:2)



**SECTION R-R**  
(SCALE 1:2)



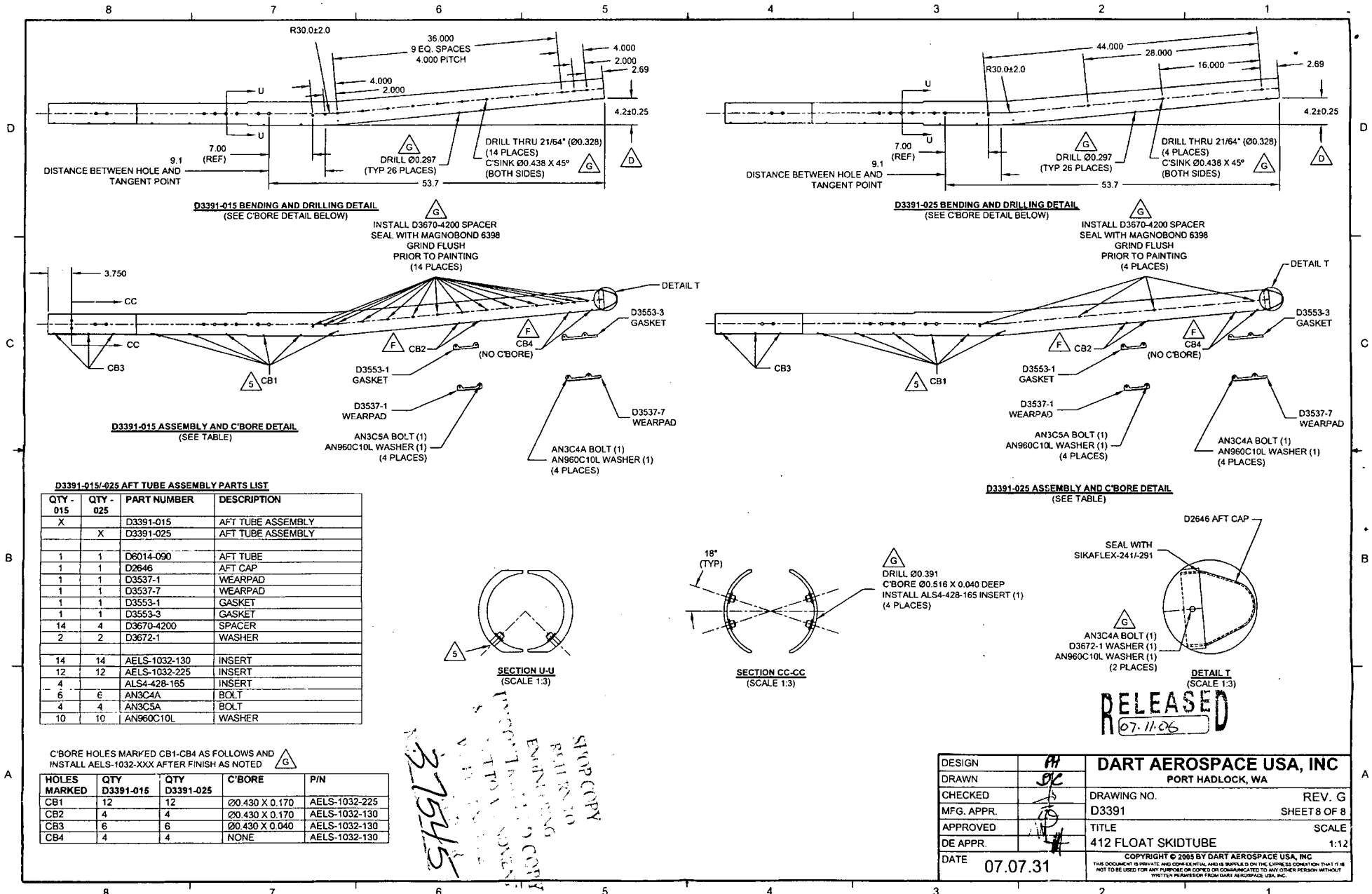
**DETAIL S**  
(SCALE 1:3)



**VIEW W-W**  
(SCALE 1:3)

**RELEASED**  
07-11-83

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MFG. APPR.		D3391	SHEET 7 OF 8
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CHECKED	SLC	DRAWING NO.	REV. G
MFG. APPR.	SLC	D3391	SHEET 8 OF 8
APPROVED	SLC	TITLE	SCALE
DE APPR.	SLC	412 FLOAT SKIDTUBE	1:12
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